CLAIMS

What is claimed is:

1. A method in a data processing system having a workflow that models a process, the method comprising the steps of:

5   generating a plan to perform an instance of the process, the plan having tasks performed by resources, wherein each resource has capabilities that are considered when generating the plan to ensure that, for each task, a suitable one of the resources is selected to perform the task;

        receiving modification information indicating that the capabilities of one of the resources has changed; and

10   assigning the resources to the tasks to generate a new plan by using the received modification information.

2. The method of claim 1, further comprising the steps of:

        generating another plan to perform another instance of the process; and

        assigning the resources to the tasks of the other plan using the received modification

15 information.

3. The method of claim 1, wherein the step of receiving modification information includes the step of assigning a new capability to the one resource that indicates the one resource is capable of performing an additional one of the tasks.

4. The method of claim 1, wherein the step of receiving modification information further

20 includes the step of receiving replacement information that indicates that another resource should be replaced by the one resource.

5. The method of claim 4, wherein the one resource and the other resource share a capability having a strength, wherein the step of receiving replacement information includes the step of increasing the strength of the one resource to exceed the strength of the other resource.

25 6. The method of claim 1, wherein the step of receiving modification information further includes the step of receiving replacement information that indicates that the one resource should be replaced by another resource.

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7.   The method of claim 6, wherein the step of receiving replacement information includes the step of removing one of the capabilities of the one resource to facilitate the replacement.

8.   The method of claim 6, wherein the one resource and the other resource share a capability having a strength, wherein the step of receiving replacement information includes the step of decreasing the strength of the one resource to below the strength of the other resource.

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9. A method in a data processing system having a workflow that models a process and a plurality of plans generated from the workflow that reflect instances of the process, the method comprising the steps of:

receiving a request to generate a new plan;

examining the plurality of plans to determine a number of the plurality of the plans that have been modified per a modification since the modified plans were created;

determining whether the number of plans exceeds a predetermined threshold; and

when it is determined that the number of plans exceeds the predetermined threshold,

generating the new plan such that the new plan incorporates the modification.

10. The method of claim 9, wherein each plan includes a task that has one of a plurality of resources assigned to perform the task, wherein each resource has capabilities that are considered when generating each plan to ensure that a suitable one of the resources is assigned to perform the task, wherein the modification is a substitution of the one resource with another resource, and wherein the step of generating the new plan includes the step of assigning the other resource to perform the task of the new plan.

11. The method of claim 10, wherein the step of assigning the other resource includes the step of assigning a new capability to the other resource that indicates that the other resource is capable of performing the task in the new plan.

12. The method of claim 10, wherein the step of assigning the other resource includes the step of increasing a strength of one of the capabilities of the other resource to a level that indicates the other resource is capable of performing the task in the new plan.

13. The method of claim 10, wherein the one resource and the other resource share a capability having a strength, and wherein the step of assigning the other resource includes the step of increasing the strength of the other resource to exceed the strength of the one resource.

14. The method of claim 10, wherein the step of assigning the other resource includes the step of removing one of the capabilities of the one resource so that the one resource is incapable of performing the task in the new plan.

15. The method of claim 10, wherein the one resource and the other resource share a capability having a strength, wherein the step of assigning the other resource includes the step of decreasing the strength of the one resource to indicate that the one resource is not capable of performing the task in the new plan.

16. The method of claim 10, wherein the one resource and the other resource share a capability having a strength, wherein the step of assigning the other resource includes the step of decreasing the strength of the one resource to below the strength of the other resource.

17.   A computer-readable medium containing instructions for controlling a data processing system, the data processing system having a workflow that models a process, the method comprising the steps of:

generating a plan to perform an instance of the process, the plan having tasks performed by resources, wherein each resource has capabilities that are considered when generating the plan to ensure that, for each task, a suitable one of the resources is selected to perform the task;

receiving modification information indicating that the capabilities of one of the resources has changed; and

assigning the resources to the tasks to generate a new plan by using the received modification information.

18.   The computer-readable medium of claim 17, wherein the method further comprises the steps of:

generating another plan to perform another instance of the process; and

assigning the resources to the tasks of the other plan using the received modification information.

19.   The computer-readable medium of claim 17, wherein the step of receiving modification information includes the step of assigning a new capability to the one resource that indicates the one resource is capable of performing an additional one of the tasks.

20.   The computer-readable medium of claim 17, wherein the step of receiving modification information further includes the step of receiving replacement information that indicates that another resource should be replaced by the one resource.

21.   The computer-readable medium of claim 20, wherein the one resource and the other resource share a capability having a strength, wherein the step of receiving replacement information includes the step of increasing the strength of the one resource to exceed the strength of the other resource.

22.   The computer-readable medium of claim 17, wherein the step of receiving modification information further includes the step of receiving replacement information that indicates that the one resource should be replaced by another resource.

23.   The computer-readable medium of claim 22, wherein the step of receiving replacement information includes the step of removing one of the capabilities of the one resource to facilitate the replacement.

24.   The computer-readable medium of claim 22, wherein the one resource and the other resource share a capability having a strength, wherein the step of receiving replacement information includes the step of decreasing the strength of the one resource to below the strength of the other resource.

25.   A computer-readable medium containing instructions for controlling a data processing system, the data processing system having a workflow that models a process and a plurality of plans generated from the workflow that reflect instances of the process, the method comprising the steps of:

5   receiving a request to generate a new plan;

examining the plurality of plans to determine a number of the plurality of the plans that have been modified per a modification since the modified plans were created;

determining whether the number of plans exceeds a predetermined threshold; and

when it is determined that the number of plans exceeds the predetermined

10   threshold,

generating the new plan such that the new plan incorporates the modification.

26.   The computer-readable medium of claim 25, wherein each plan includes a task that has one of a plurality of resources assigned to perform the task, wherein each resource has capabilities that are considered when generating each plan to ensure that a suitable one of the

15   resources is assigned to perform the task, wherein the modification is a substitution of the one resource with another resource, and wherein the step of generating the new plan includes the step of assigning the other resource to perform the task of the new plan.

27.   The computer-readable medium of claim 26, wherein the step of assigning the other resource includes the step of assigning a new capability to the other resource that indicates that

20   the other resource is capable of performing the task in the new plan.

28.   The computer-readable medium of claim 26, wherein the step of assigning the other resource includes the step of increasing a strength of one of the capabilities of the other resource to a level that indicates the other resource is capable of performing the task in the new plan.

29.   The computer-readable medium of claim 26, wherein the one resource and the other

25   resource share a capability having a strength, and wherein the step of assigning the other resource includes the step of increasing the strength of the other resource to exceed the strength of the one resource.

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30.   The computer-readable medium of claim 26, wherein the step of assigning the other resource includes the step of removing one of the capabilities of the one resource so that the one resource is incapable of performing the task in the new plan.

31.   The computer-readable medium of claim 26, wherein the one resource and the other resource share a capability having a strength, wherein the step of assigning the other resource includes the step of decreasing the strength of the one resource to indicate that the one resource is not capable of performing the task in the new plan.

32.   The computer-readable medium of claim 26, wherein the one resource and the other resource share a capability having a strength, wherein the step of assigning the other resource includes the step of decreasing the strength of the one resource to below the strength of the other resource.

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33.   A data processing system comprising:

a secondary storage device further comprising a workflow that models a process;

a memory device further comprising a program that generates a plan to perform an instance of the process, the plan having tasks performed by resources, wherein each resource has capabilities that are considered when generating the plan to ensure that, for each task, a suitable one of the resources is allocated to perform each task, that allocates one of the resources to perform at least one of the tasks, that receives modification information indicating that the capabilities of the one resource has changed, that generates a new plan to perform another instance of the process, and that allocates the resources to the tasks of the new plan using the received modification information; and

a processor for running the program.

34.   The data processing system of claim 33, wherein the modification information indicates that the one resource has been replaced by another resource in at least one of the tasks in the plan.

35.   The data processing system of claim 34, wherein the modification information further indicates that one of the capabilities of the one resource should be removed.

36.   The data processing system of claim 34, wherein the one resource and the other resource share a capability having a strength, wherein the modification information further indicates that the strength of the other resource should be increased to exceed the strength of the one resource.

37.   The data processing system of claim 34, wherein the modification information further indicates that the other resource should be assigned a new capability that indicates the other resource is capable of performing the at least one of the tasks in the new plan.

38.   A system having a workflow that models a process, the system comprising:

means for generating a plan to perform an instance of the process, the plan having tasks performed by resources, wherein each resource has capabilities that are considered when generating the plan to ensure that, for each task, a suitable one of the resources is selected to

5   perform the task;

means for receiving modification information indicating that the capabilities of one of the resources has changed; and

means for assigning the resources to the tasks to generate a new plan by using the received modification information.

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